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THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

THE STUDY OF IGNEOUS ROCKS¹

No branch of petrology presents so attractive a field for investigation and study as that concerned with the origin and formation of igneous rocks. The great problems of metamorphism that traverse so much of the earth's dynamic history and involve so many factors common to the problems of igneous rocks are less alluring because of their greater complexity, and less definite character. While much is being done in each of these fields of rock study, it is to the former that I wish to call attention at this time. It is interesting to note how the attitude of the petrographer toward the subject of igneous rocks has changed with increasing knowledge of their composition, and with advancing experience with the fundamental laws of physics and chemistry.

Rocks that were considered igneous a century ago were almost wholly those known to have poured forth from volcanic craters, and were, for the most part, compact, aphanitic lavas, often containing porphyritic crystals—distinctly volcanic rocks. The great number of phanocrystalline massive rocks were not generally considered as having the same character and origin as volcanic rocks, as being igneous. Their formation was explained in different ways by various geologists. And when treated

¹ Address of the vice-president and chairman of Section E—Geology and Geography—American Association for the Advancement of Science, Baltimore, 1908.